213.1152-CIP

UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner: VIVLEMORE, Tracy Ann Art Unit: 1635

Re: Application of: ZHAO, Hong, et al.
Serial No.: 10/822,205
Filed: April 9, 2004
For: **POLYMERIC OLIGONUCLEOTIDE PRODRUGS**

Confirmation No.: 3686

RESPONSE

VIA FACSIMILE 571-273-8300
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

January 27, 2006

Sir:

Responsive to the Office Action dated December 27, 2005, the following remarks are made:

A. RESTRICTION REQUIREMENT

In response to the restriction requirement, Applicants elect to further prosecute in this patent application Invention I, claims 1-19 and 21, drawn to an oligonucleotide prodrug having the formula shown in claim 1, classifiable in class 536, subclass 23.1. This response is made with traverse and it is urged that the claims contained in Inventions I-IV be examined together. Reconsideration is respectfully requested.

Invention I is directed to an oligonucleotide prodrug having formula I in claim 1 and Invention II is directed to an oligonucleotide prodrug having formula (v) in claim 20. Formula I recites X_1, a nucleotide or an oligonucleotide residue; L_2, a spacing group; L_1, a releasable linking moiety; and R_1, a polymer residue. Formula (v) of Invention II recites X_1, a nucleotide or

an oligonucleotide residue; L_2, a spacing group; and T, a branched polymer residue.

Formulae I and (v) have common structures, such as X_1 and L_2. In addition, formula (v) includes the same polymer residue which is defined for R_1 of Formula I. In invention II, the same polymer residue, R_1, of Invention I, is substituted to become a branched polymer. The branched polymer can carry multiple oligonucleotide prodrugs. The similar structures of formulae I and (v) show that Inventions I and II are related. In fact, both aspects of the invention constitute a single inventive concept, i.e. a polymeric transport system for delivering oligonucleotides.

Particularly, it is noted that both Inventions I and II are identically classified in class 536, subclass 23.1. As such, the search directed to the invention of the elected Invention I will completely overlap a search strategy directed to the invention of the non-elected Invention II which includes only claim 20.

Accordingly, Applicants urge that there would not be an undue burden upon the Examiner to search and consider Inventions I and II at the same time. It is respectfully requested that Inventions I and II be examined together.

In addition, the Examiner has the discretion to prosecute all of the pending claims in a single patent application. In fact, "[I]f the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions." (Emphasis added; Manual of Patent Examining Procedure, § 803, second paragraph).

Thus, for reasons of efficiency in prosecution and searching, it is urged that Inventions I-IV be examined together and the Examiner is respectfully requested to reconsider and withdraw the present Restriction Requirement.

There is no change in inventorship based upon this selection.

B. RESTRICTION TO A SINGLE NUCLEOTIDE SEQUENCE

In response to the restriction requirement to a single nucleotide sequence, Applicants elect to further prosecute in this case SEQ ID No. 1 and the related SEQ ID Nos. 2 and 4. Even though the Examiner indicated on page 8 that this requirement is not an election of species, Applicants urge that SEQ ID No. 3 also be examined at the present time.

As many as ten independent and distinct nucleotide sequences can be examined together without restriction pursuant to MPEP §803.04. The relevant part of the section provides as follows:

> Absent evidence to the contrary, each such nucleotide sequence is presumed to represent an independent and distinct invention, subject to a restriction requirement . . . . Nevertheless, to further aid the biotechnology industry in protecting its intellectual property without creating an undue burden on the Office, the Director decided *sua sponte* to partially waive the requirements of 37 CFR 1.141 *et seq.* and permit a reasonable number of such nucleotide sequences to be claimed in a single application. See *Examination of Patent Applications Containing Nucleotide Sequences*, 1192 O.G. 68 (November 19, 1996).
> It has been determined that normally ten sequences constitute a reasonable number for examination purposes. Accordingly, in most cases, up to ten independent and distinct nucleotide sequences will be examined in a single application without restriction. In addition to the specifically selected sequences, those sequences which are patentably indistinct from the selected sequences will also be examined. (Emphasis added).

In the present application, SEQ ID No. 1 is an 18-mer phosphorothioate antisense oligonucleotide, that is complementary to the first six codons of the initiating sequence of the human bcl-2 mRNA. 16 nucleotides of SEQ ID No. 2, 12 nucleotides of SEQ ID No. 3 and 16 nucleotides of SEQ ID No. 4 are identical to the 18-mer antisense oligonucleotide of human bcl-2 mRNA.

The identity among the oligonucleotide sequences and the total number of the oligonucleotide sequences (4) is not such as to require separate examinations. Accordingly, it is urged that all of the oligonucleotide sequence ID Nos. 1 – 4 be examined together.

It should be appreciated by the Examiner that the invention as claimed herein requires a polymeric transport system as a key part thereof. Thus, such platforms can be used by the artisan for a myriad of oligonucleotides and the scope of the claims should not be limited by any specific oligonucleotides.

C. REJOINDER

Applicants reserve the right to request rejoinder of all appropriate claims removed by the Examiner in the event that the traversal is not deemed persuasive.

D. FEES

This response is being filed within the shortened period for response. Thus, no further fees are believed to be required. If, on the other hand, it is determined that any further fees are due or any overpayment has been made, the Assistant Commissioner is hereby authorized to debit or credit such sum to Deposit Account No. 02-2275.

Pursuant to 37 C.F.R. 1.136(a)(3), please treat this and any concurrent or future reply in this application that requires a petition for an extension of time for its timely submission as incorporating a petition for extension of time for the appropriate length of time. The fee associated therewith is to be charged to Deposit Account No. 02-2275.

An early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION
I hereby certify that this Response is being facsimile transmitted to the Commissioner for Patents on the date shown below.
January 27, 2006
LUCAS & MERCANTI, LLP

BY:
Michael N. Mercanti